**ACS-2814-002 Assignment #2**

Due by Feb. 28, 2019

Submit your responses to the questions below via an email to: acs2814lab@gmail.com

1. Using the PowerPoint to create an ERD for the requirements below

‑ ERD: Must adhere to the Chen notation used in ACS‑2814.

‑ Must be readable (no lines crossing, attributes close to their entity type/relationship type, consistent fonts/colours, etc.)

‑ Place a comment at the top of the ERD with your name and student number.

‑ If necessary use your OS screen capture utility (e.g. Snipping Tool, Grab, etc.) to create an image of your design.

2. Using the mapping rules discussed in ACS‑2814, implement the design in an MS Access

database

‑ Ensure that RI is enforced.

‑ Select appropriate data types.

3. Populate the database

‑ Insert rows in tables to represent the sample data given in the requirements

‑ Some further details may be required.

‑ Add sufficient data to illustrate all the requirements.

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| A department is identified by both its name and its number, and may be in multiple locations | -Engineering is department number 5, and is located in Toronto and Winnipeg  ‑ Animation is 7 and in Toronto |
| A project is identified by its number and also its name, and has a location. A department controls many projects, and conversely, a project must be controlled by exactly one department | ‑ Whistler is the name of project number 8 and is located in Toronto  ‑ The Production department controls 7  and 15 |
| An employee can be identified by their employee number as well as their Social Insurance Number (SIN).  An employee has a name, address, phone number and hire date. Some queries will list a last name and some will require the province they live in.  An employee may have one or more dependents, and conversely, a dependent must be related to exactly one employee. A dependent has a name and a birth date.  He/she is identified through the employee’s number and their name.  An employee may supervise other employees, and an employee may be supervised by at most one employee. | ‑ Employee number 1234 has a first name Joe and last name McLean, and so his name is Joe McLean  ‑ 1234 David was born Jan 17, 2010, 1234 Brooke was born August 13 2014, and 3344 David was born June 10, 2017  ‑ 1234 supervises 3344 and 5566 |
| An employee must work on at least one project, and a project must have at least one employee who is working on it.  For each employee and project we record the number of hours worked, and must be able to look up what project(s) an employee was working on at any given time.  An employee must work for exactly one department, and a department may have several employees working in it.  For each department there is a number of employees working in it, but this can be computed by counting each employee working in it.  An employee manages at most one department, and conversely, a department must have exactly one employee who manages it. | Project 8 has employees 1234 and 3344 working on it. Employee 5566 works on projects 7 and 15.  ‑ 1234 has worked 40 hours on project 12, 5566 has worked 20 hours on project 12. 1234 is still assigned to work on it.  ‑ 1234 and 5566 work in the Engineering department  ‑ Engineering has 2 employees  ‑ Employee 5566 manages the Engineering department |